

Reiko YOROI*: Adventitious buds on the fronds of triploid of *Nesopteris thysanostoma*

鎧 礼子*: 3 倍体カンシノブホラゴケの葉に生じた不定芽

Nesopteris thysanostoma (Makino) Copel. (Philip. Journ. Sci. 67: 66, 1939) is a terrestrial filmy fern growing on watery ground in valleys in the Ryukyus, restricted to Isl. Iriomote. Chromosome number and occurrence of adventitious buds of this species are reported here for the first time. Voucher specimen (YOROI # 5468) is deposited in the herbarium of Kyoto University (KYO).

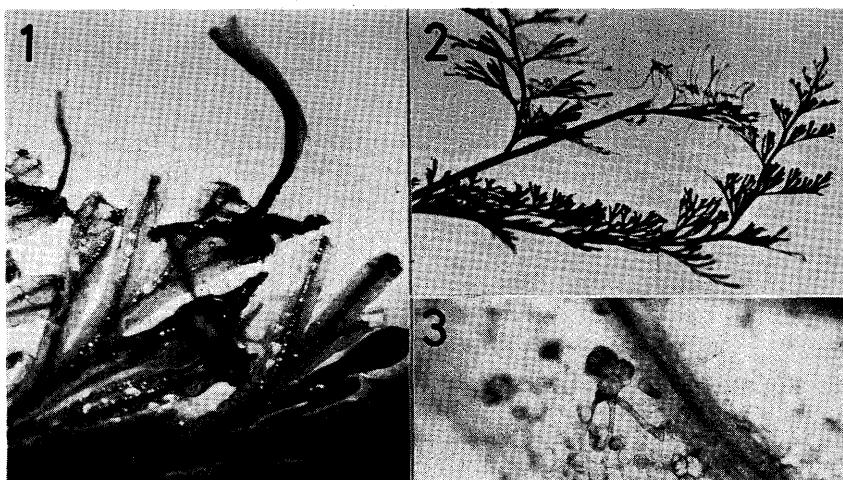


Fig. 1. Adventitious buds. 1. Various stages of buds on terminal pinnae. 2. Buds on the frond in a cluster. 3. Early stages of buds with rhizoids.

Mature plants were collected from Isl. Iriomote in spring of 1971 by Dr. S. Serizawa and soon later cultivation was begun in the laboratory of Tokyo Kyoiku University. It was continued for more than four years. The plants were put on sphagnum medium, kept in a transparent plastic box during the cultivation. The box was put near fluorescent tubes in the

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laboratory. After two years from the beginning, many adventitious buds occurred on both surfaces of fronds (Figs. 1-1, 1-2), even on usual laminae of one cell layer (Fig. 1-3). Appearance of rhizoids from the terminal portions of fronds was the beginning of buds. The fronds were alive for more than two years, then they were broken onto the sphagnum. The buds grew into many small plants on the same medium around the mother plants. Origin of the buds in this species has been traced to single superficial cells, similar to those in *Asplenium bulbiferum* Forst. (Natürl. Pflanzenfam. I-4: 73, 1898).

In the fields I could not collect the fronds of *N. thysanostoma* possessing those buds yet, but Serizawa's specimen #14586 (sterile) and Tagawa & Iwatsuki's #4571 (named *N. blepharistoma*) possess some adventitious buds. In the laboratory, the cultivation was made in wet condition of saturated moisture. From this observation, the production of buds might be attributed mainly to environment, as moist aerial or watery condition. In fact, habitats of *Nesopteris* in Isl. Iriomote also kept in wet condition through all seasons.

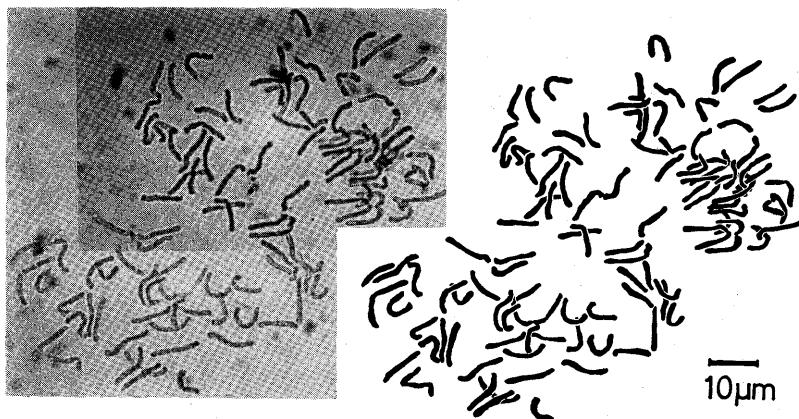


Fig. 2. Somatic chromosomes. $2n=108$.

Chromosome numbers were counted in the young frond-tips with the usual acetocarmine squash method. The somatic chromosome number $2n=108$ has been counted for this species (Fig. 2). In the genus *Nesopteris*, only the chromosome numbers of *N. intermedia* (v. d. Bosch) Copel. ($n=36$) were

counted from the specimens of Fiji and Solomon Islands by Braithwaite (Br. Fern Gaz. 10: 81-91, 1969, Bot. J. Linn. Sci. 71: 167-189, 1975). Since the basic chromosome number of this genus has been known $X=36$, the present species seems to be a triploid.

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琉球西表島産のカンシノブホラゴケを実験室で培養していたところ、2年経って葉面に多数の不定芽が発生した。不定芽の起源はコモチヒノキシダ同様、表皮の単一細胞である。私は現地ではこのような不定芽をつけた葉を見たことがないが、本属植物で不定芽をつけた葉を採集された方もあるので、このような不定芽の発生は多分に湿潤な環境のせいではないかと考えられる。なお西表島には本属のタクサとしてはオオカンシノブホラゴケ・カンシノブホラゴケ・ヤエヤマカンシノブホラゴケの三つが知られているが、胞子のう群のない葉では相互の区別が非常にむずかしい。

次にカンシノブホラゴケの染色体数を初めて数えることができた。体細胞染色体数 $2n=108$ であった。今まで外国の種類で調べられた唯一の結果 $n=36$ の値から考えると、西表島のものは3倍体だと考えられる。今後さらに他の種類の染色体数を調べ、また不定芽との関係を明らかにしたいと思っている。

研究中標本などの件でご教示賜わった京都大学岩槻邦男教授に、細胞学的な面でいろいろお世話になった日本歯科大学三井邦男助教授に、それぞれ厚く御礼申し上げます。

□I. A. Abbott & G. J. Hollenberg: *Marine Algae of California*. xii-827 pp., 701 figs., 5 maps, Stanford Univ. Press, Stanford, California, 1976. 22.50 \$ アメリカ太平洋沿岸とくにカリフォルニア沿岸は海藻の豊富なところである。従来、カリフォルニアの海藻相を知るには原著論文のほかに、Setchell, W. A. & Gardner, N. L.: *The marine algae of the Pacific coast of North America*. 1. *Myxophyceae* (1919); 2. *Chlorophyceae* (1920); 3. *Melanophyceae* (1925) 及び Smith, G. M.: *Marine algae of the Monterey Peninsula, California*. (1944); Supplement (1969) などの数著に目を通さねばならなかった。その意味でも本書の出版は実に有難い。この本に収録されている種類数は 669 で、これは 1976 年までにカリフォルニア沿岸に産することの知られた海藻の全種類数の約 98% に当る。それぞれの種類には、記載者名、原著書名、発行年、異名、形態的特徴と分布上のノート、さらに必要に応じて生活史の概略が記述されている。各階級の分類群には検索表が添えられ、それぞれの種類には全形または内部構造等を示す図が計 701 揿入される。記述、図ともに内容は適切である。

(千原光雄)